

MicroScope - Gamma Ray & Resistivity

2in / 100ft & 5in / 100ft Measured Depth

Schlumberger

Company: Carrizo Oil & Gas, Inc.

Well: Wickstrom 5-44-5-60 ST01

Field: Niobrara

County: Morgan

State: Colorado

Country: U.S.A.

Latitude: 40° 25' 24.06" N

APIN: 050870816100

Longitude: 104° 6' 32.94" W

Rig Name: Cade 22

Rig Type: Kelly Land Rig: Triple joints

FL: NAD83 Colorado State Plane, Northern Zone, US Feet

FL1: N 1400103.30 ftUS

FL2: E 3387216.83 ftUS

Log Measured From - Drill Floor: 4559.80 ft

Ground Level: 4543.80 ft

Permanent Datum - Mean Sea Level

Acquisition Dates:

10 Aug 11

Other Services:

Directional Drilling

Log Interval:

8000.00(ft) to

Index Types:

Measured Depth

Index Scales:

1:600 2" / 100', 1:240 5" / 100'

Depth Source:

Driller's Depth

Depth Sensor:

PASON

Conveyance:

Drill Pipe

Print Type:

Field

Spud Date:

29-JUL-2011



Disclaimer

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Well Composite

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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Software Version

Acquisition System	Version
MaxWell	2.1.6903.0
Application Patch	SP-20110530-2.1.6903.1193

Computation	Description		Version
GVR4Res	GVR4 Resistivity Computation Package for both Real-time and Recorded Mode		2.1.6903.1193
GVR4GR	GVR4 Gamma Ray Computation Package for both Real-time and Recorded Mode		2.1.6903.1193
Tool Elements	Description	Software Version	Firmware Version
RBEC	Electronics Chassis Assembly for GVR4E-AA	2.1.6903.1193	
DRILLING_SURFACE	DRILLING_SURFACE	2.1.6903.1193	

Composite Summary

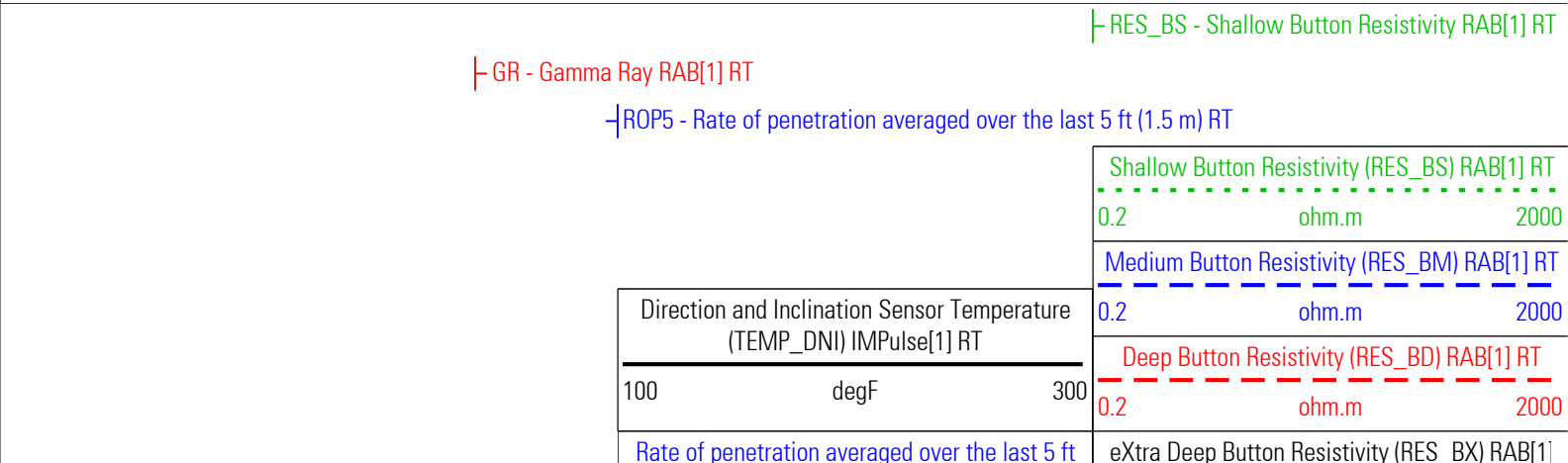
Run Name	Objective	Direction	Top	Bottom	Start Time	Stop Time
RUN01	Drilling	Down	6405.08 ft		10-Aug-2011 07:50:50	

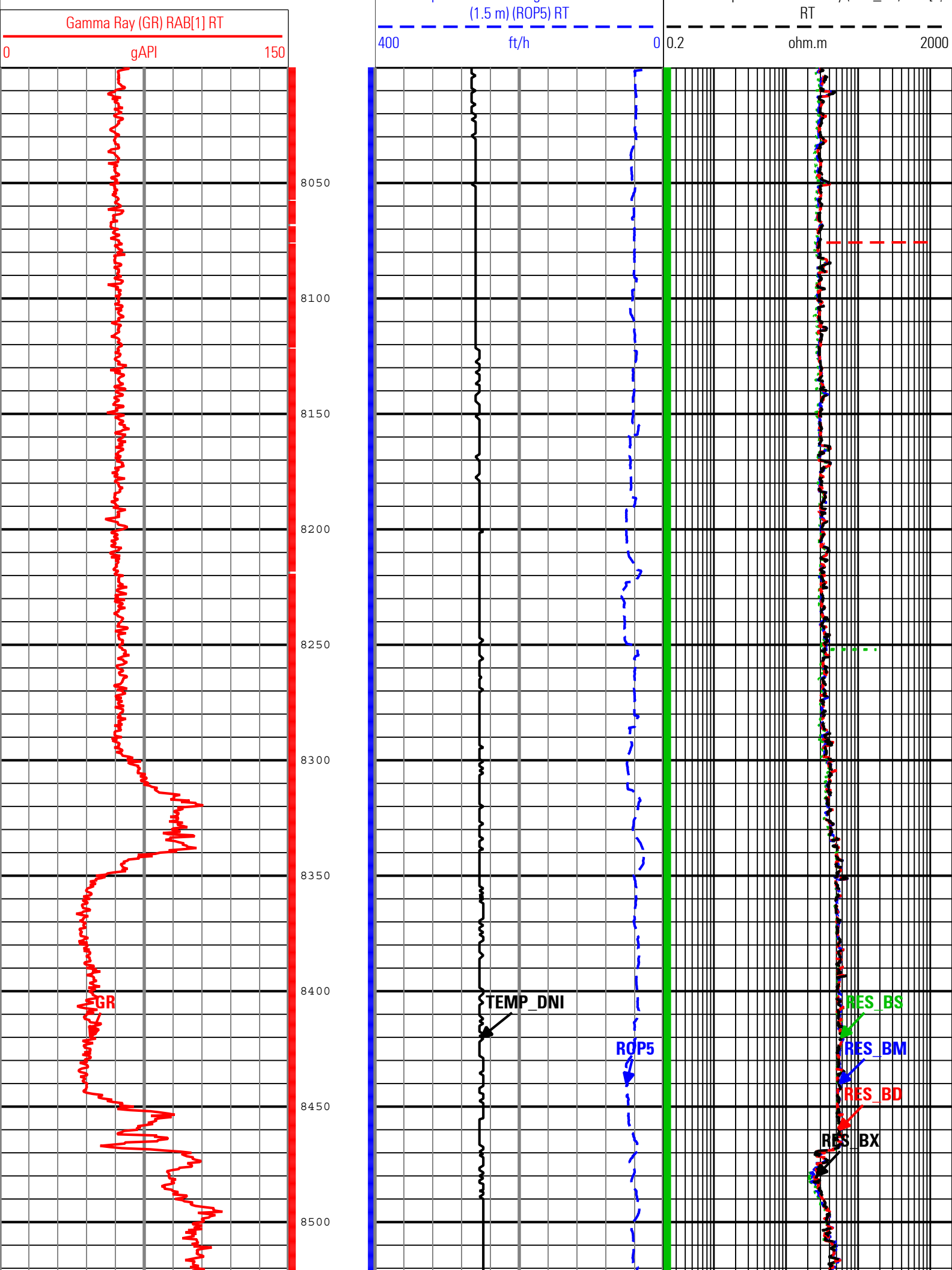
All depths are referenced to toolstring zero

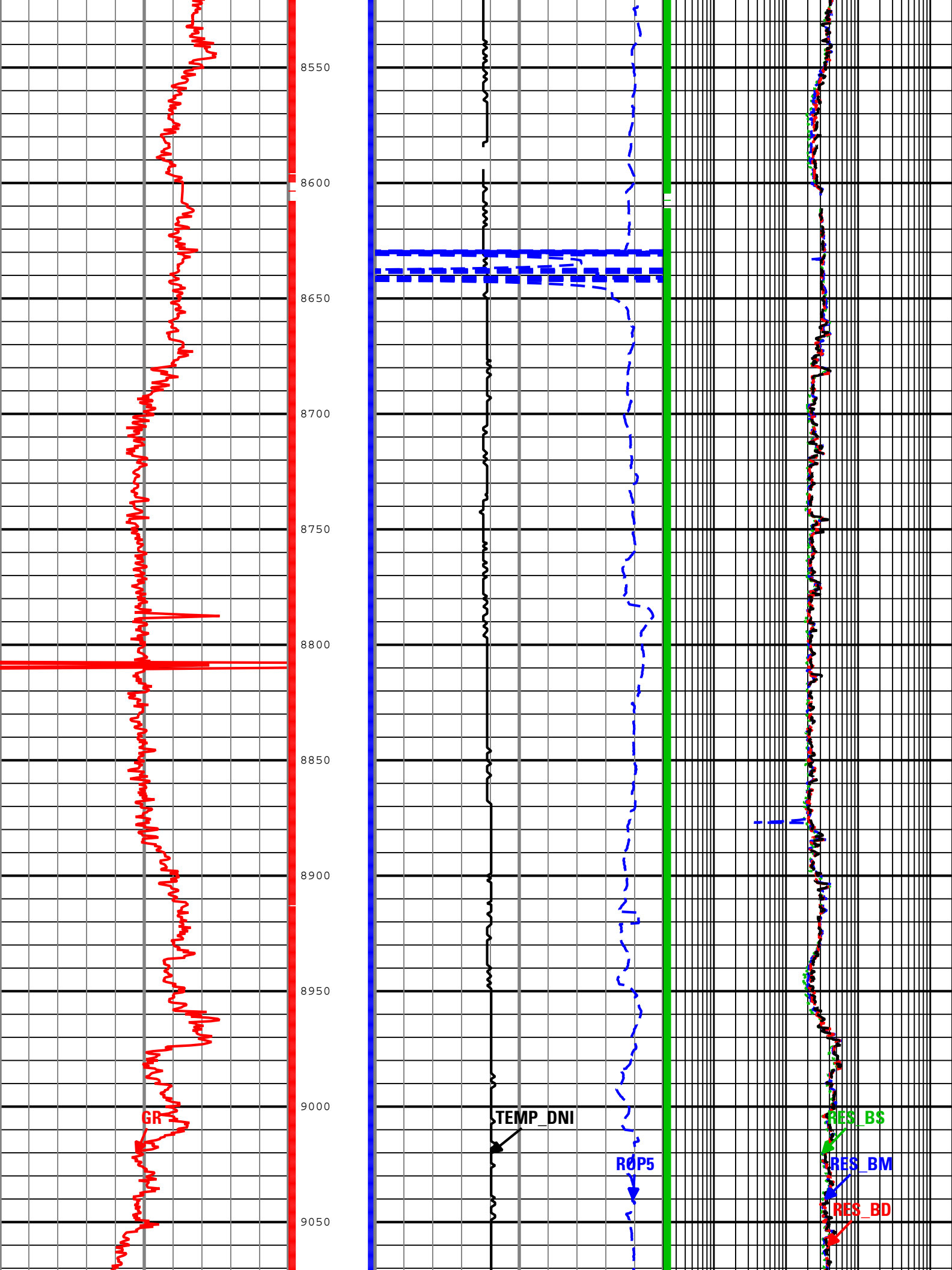
LogWell Composite 28059CA9-4A5A-4509-A8A6-CA78C078C7E6

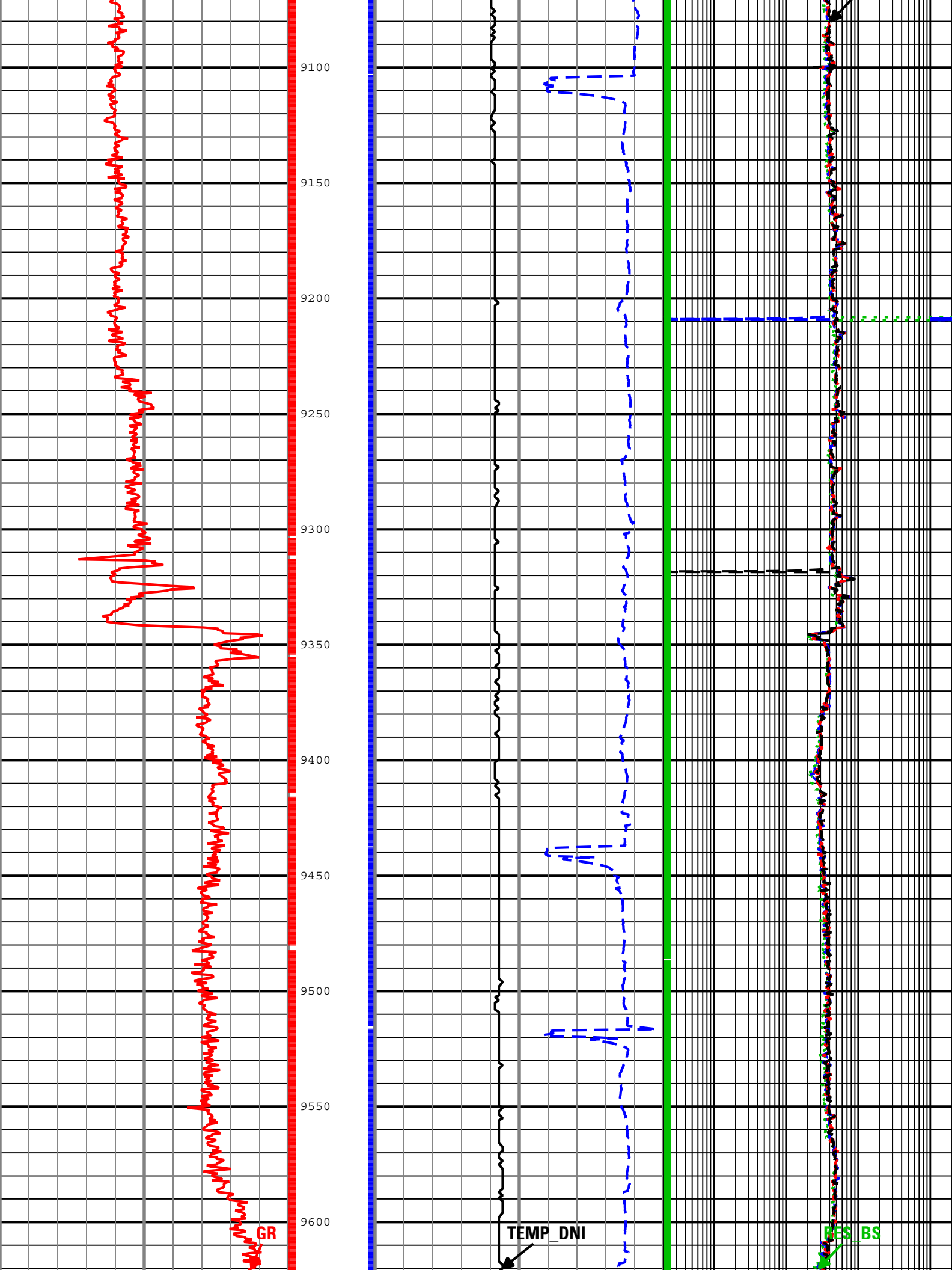
Description: ShortPulse Gamma Ray 1 RT Format: Log (RT GR and RES) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 17-Aug-2011 07:54:57

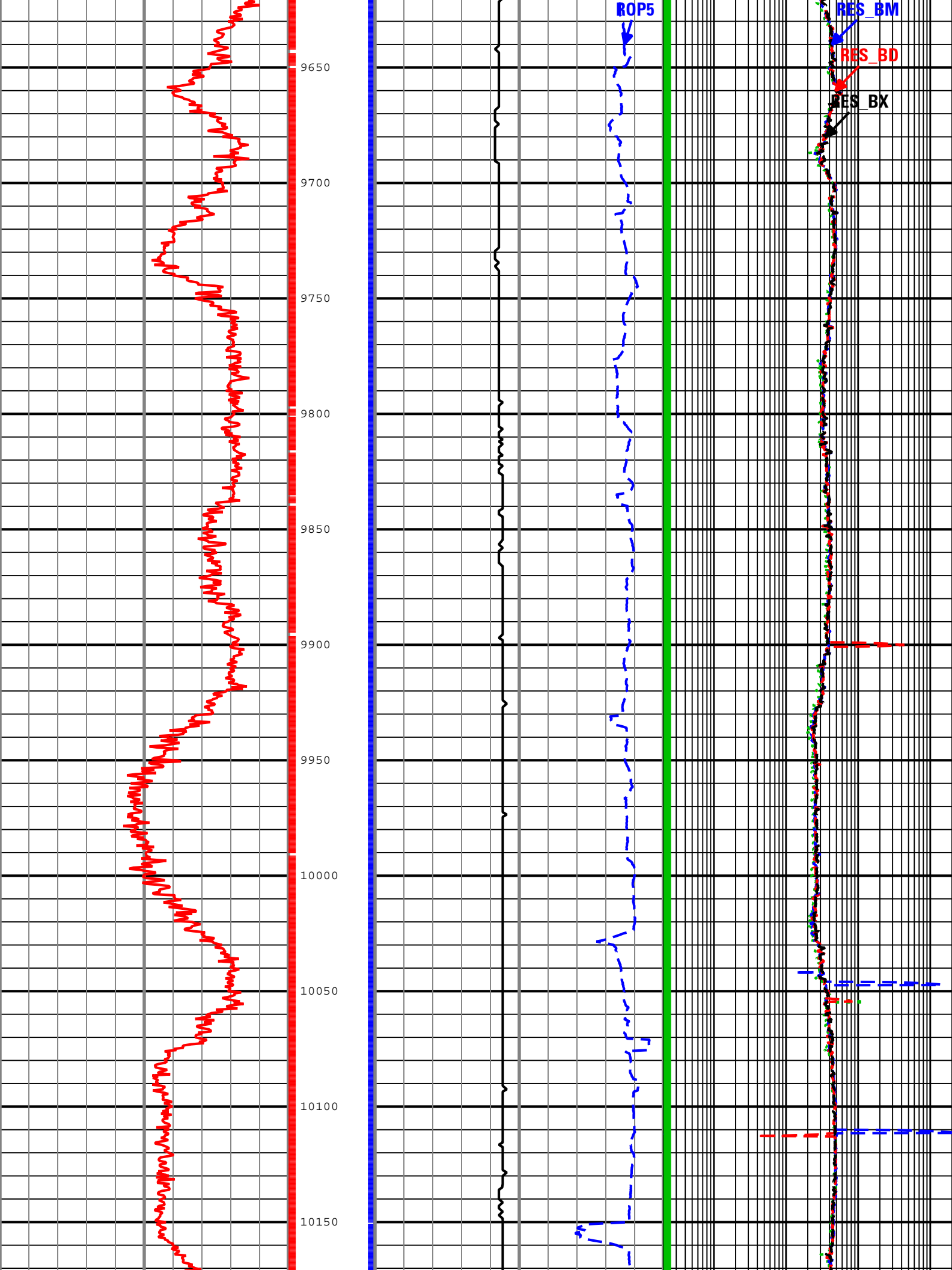
Channel	Source	Sampling
GR	RAB[1]:RAB[1]:RBEC[1]	6in - RT
RES_BD	RAB[1]:RAB[1]:RBEC[1]	1.2in - RT
RES_BM	RAB[1]:RAB[1]:RBEC[1]	1.2in - RT
RES_BS	RAB[1]:RAB[1]:RBEC[1]	1.2in - RT
RES_BX	RAB[1]:RAB[1]:RBEC[1]	1.2in - RT
ROP5	DRILLING_SURFACE	6in - RT
TEMP_DNI	IMPulse[1]:IMPulse[1]	6in - RT

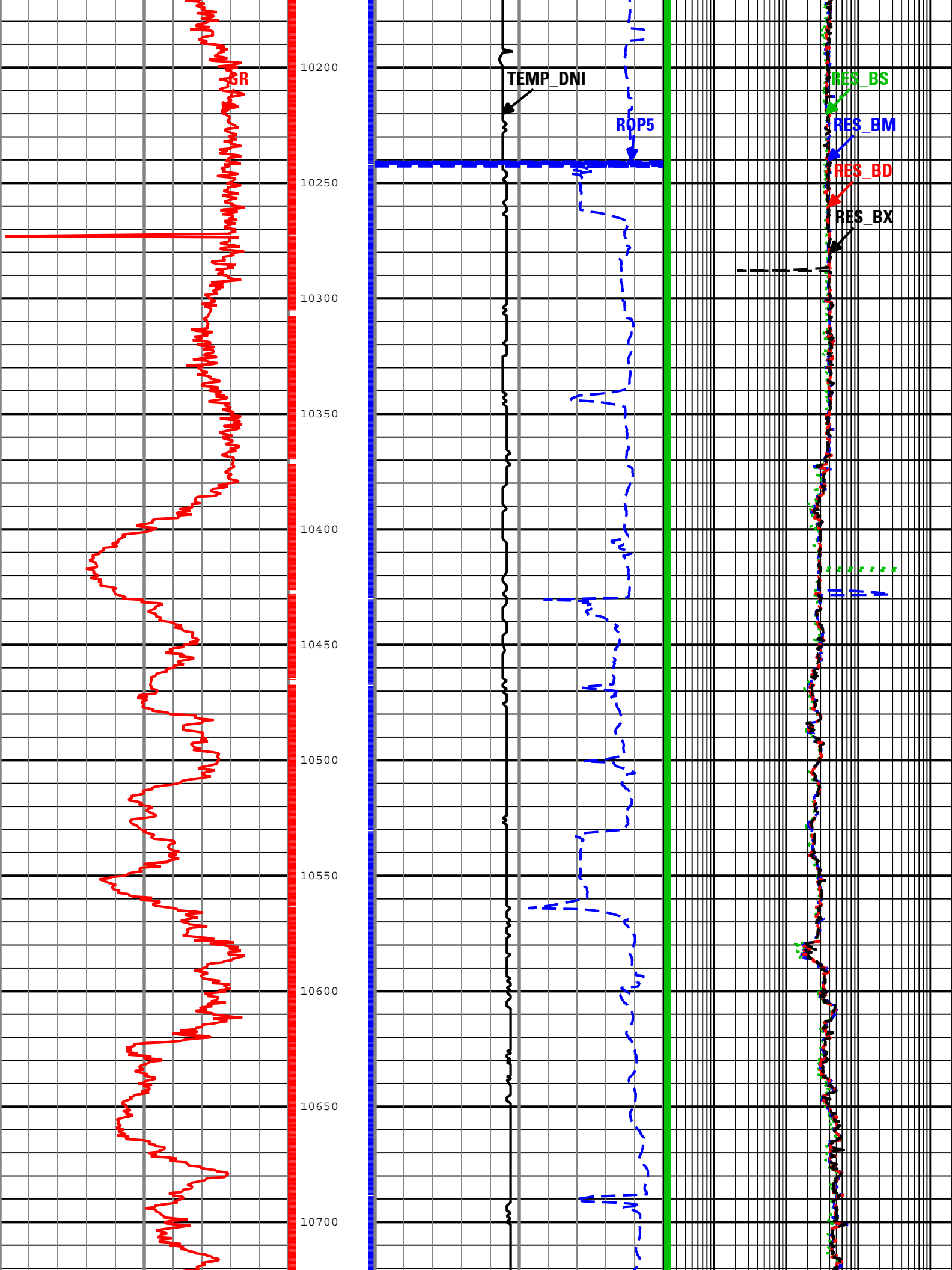


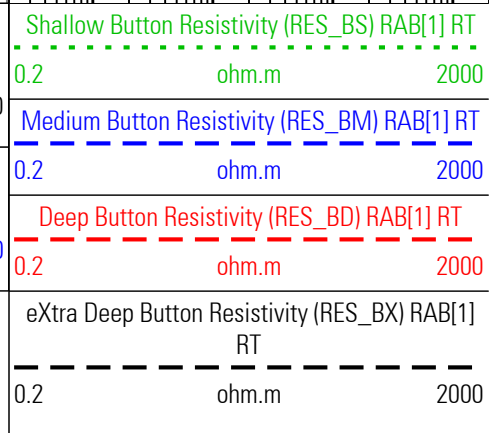
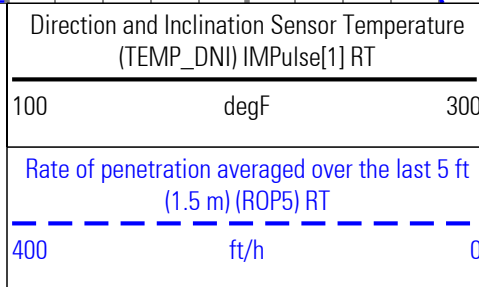
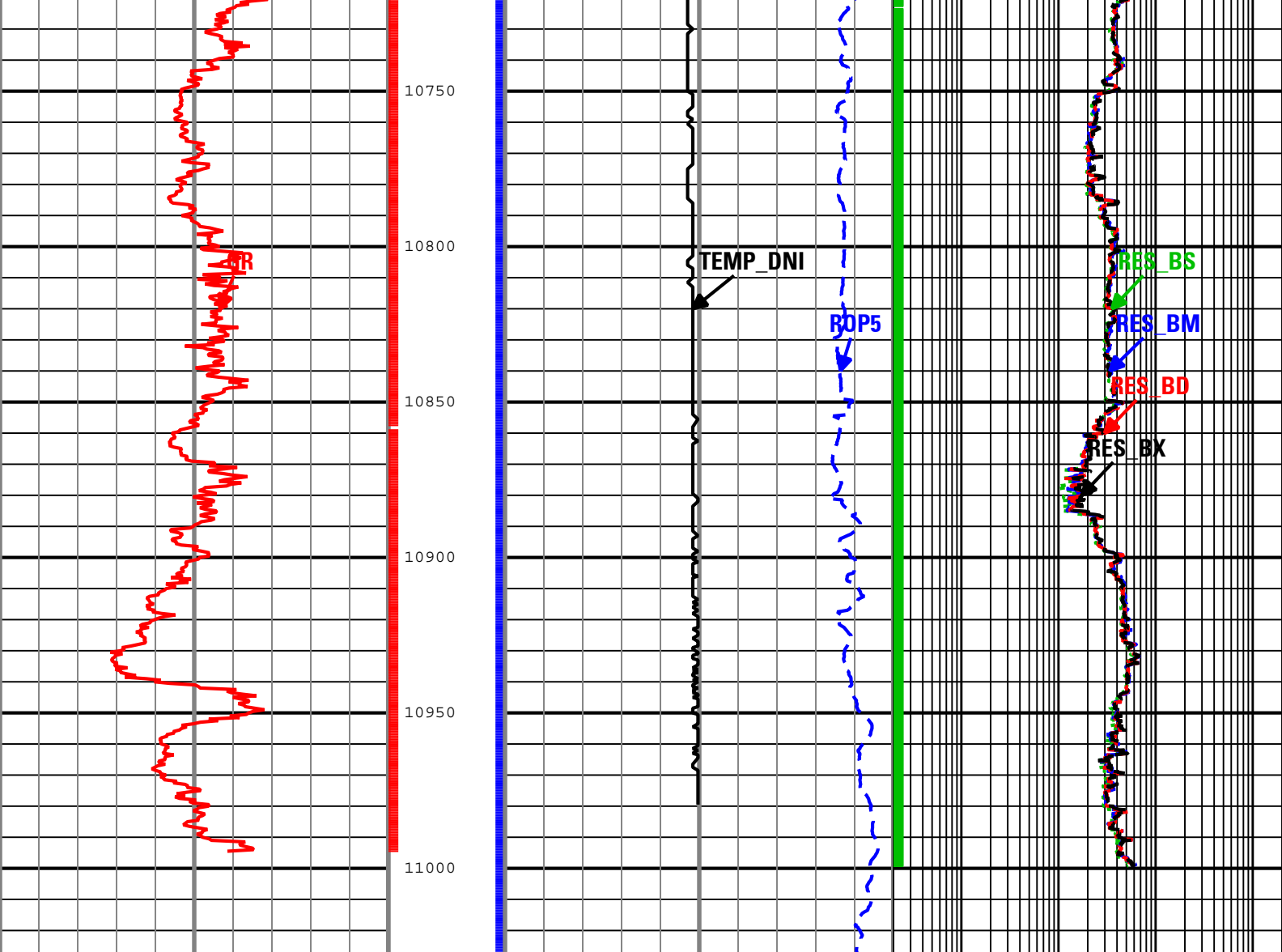












ROP5 - Rate of penetration averaged over the last 5 ft (1.5 m) RT

GR - Gamma Ray RAB[1] RT

RES_BS - Shallow Button Resistivity RAB[1] RT

Description: ShortPulse Gamma Ray 1 RT Format: Log (RT GR and RES) Index Scale: 2 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 17-Aug-2011 07:54:57

Channel Processing Parameters

RUN01: Parameters

Parameter	Description	ToolPath	Value	Unit
BHK	Drilling Fluid Potassium Concentration	Borehole	0	%
BHT	Bottom Hole Temperature	Borehole	188	degF
BS	Bit Size	COMPLETION	Depth Zoned	in

DEPTH_SEL	Depth Selection Parameter	DNMSESSION	Driller's Depth	
DFD	Drilling Fluid Density	Borehole	9.8	lbm/gal
DFT	Drilling Fluid Type	Borehole	Water	
GCSE_RT	Generalized Caliper Selection for DnM real time	Borehole	BS	
GGRD	Geothermal Gradient	Borehole	1	0.01 degF/ft
GRSE_RT	Generalized Mud Resistivity Selection for Realtime Mode	Borehole	REMS	
GTSE_RT	Generalized Temperature Selection for Realtime Mode	Borehole	GTEM_GRDSURF	
MST	Mud Sample Temperature	Borehole	88.4	degF
RMS	Resistivity of Mud Sample	Borehole	0.91	ohm.m
SHT	Surface Hole Temperature	Borehole	99.8	degF

RUN01 : Depth Zoned Parameters

Parameter	Value	Start (ft)	Stop (ft)
BS	8.75	8000	6360
BS	6.125	6360	

All depth are actual.

Tool Control Parameters

Well Composite

Integration Summary

Output Channel(s)	Output Description	Input Parameter	Output Value	Unit
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Composite Summary

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Log

Well Composite 28059CA9-4A5A-4509-A8A6-CA78C078C7E6

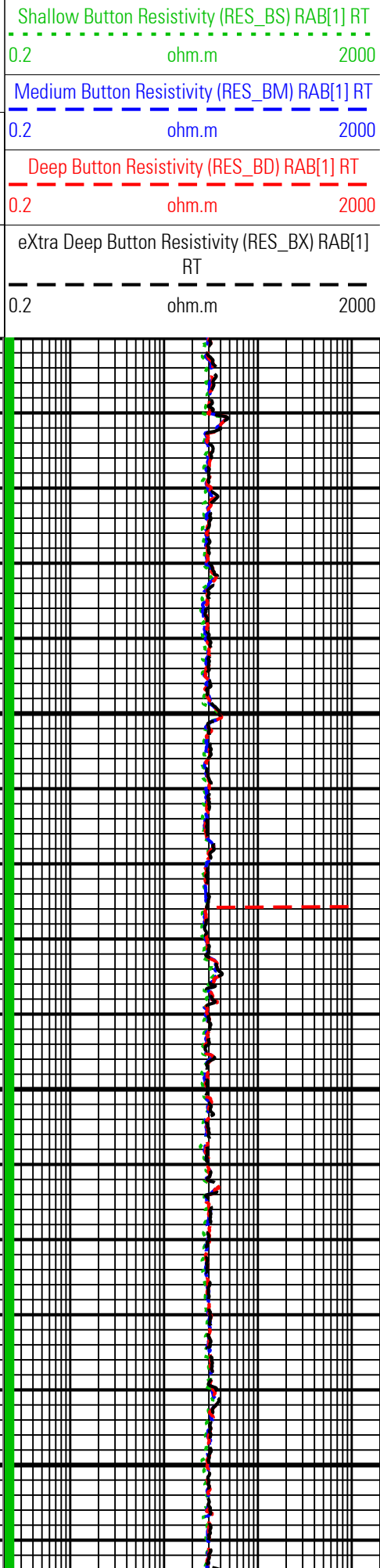
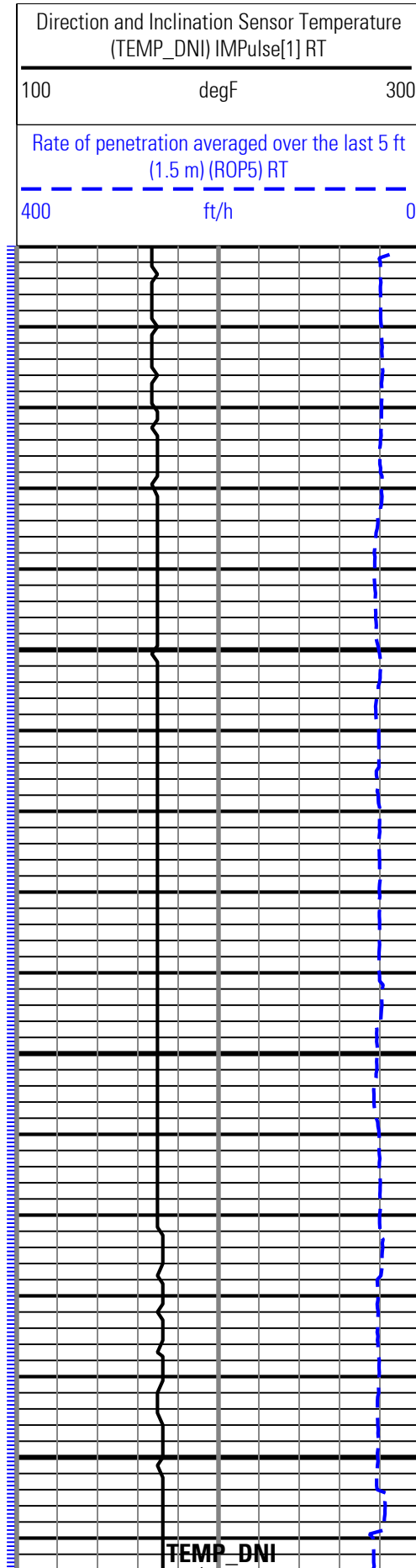
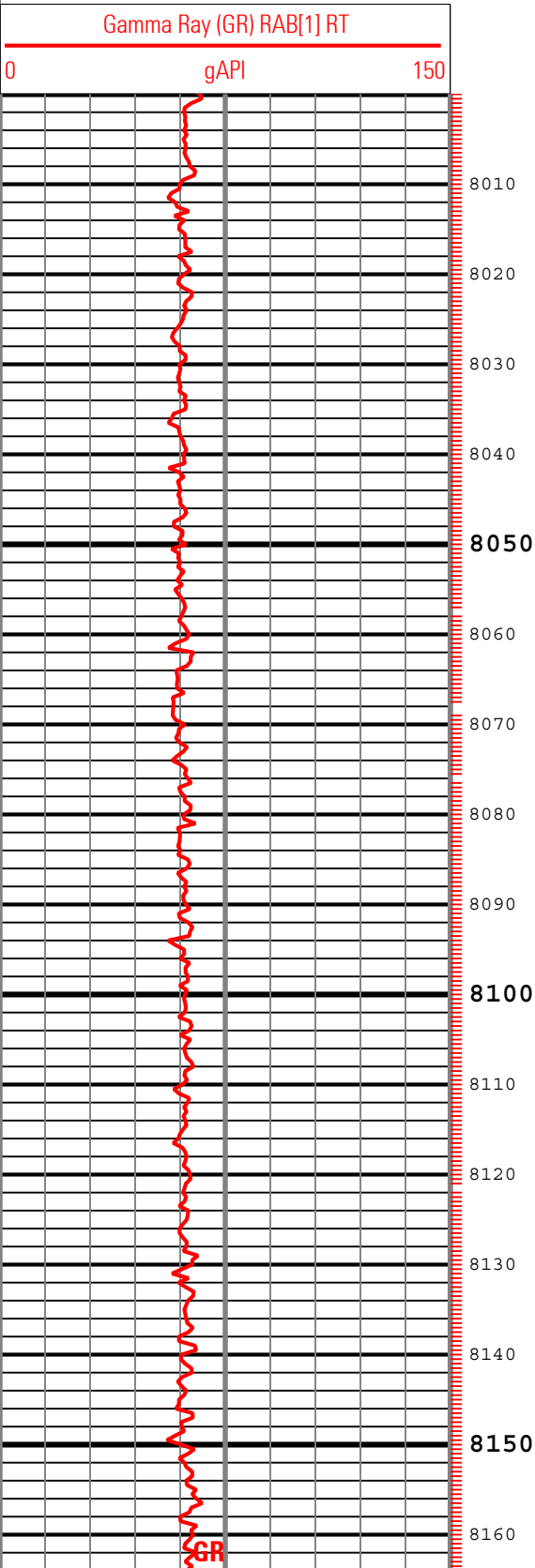
Description: ShortPulse Gamma Ray 1 RT Format: Log (RT GR and RES) Index Scale: 5 in per 100 ft Index Unit: ft Index Type: Measured Depth Creation Date: 17-Aug-2011 07:55:06

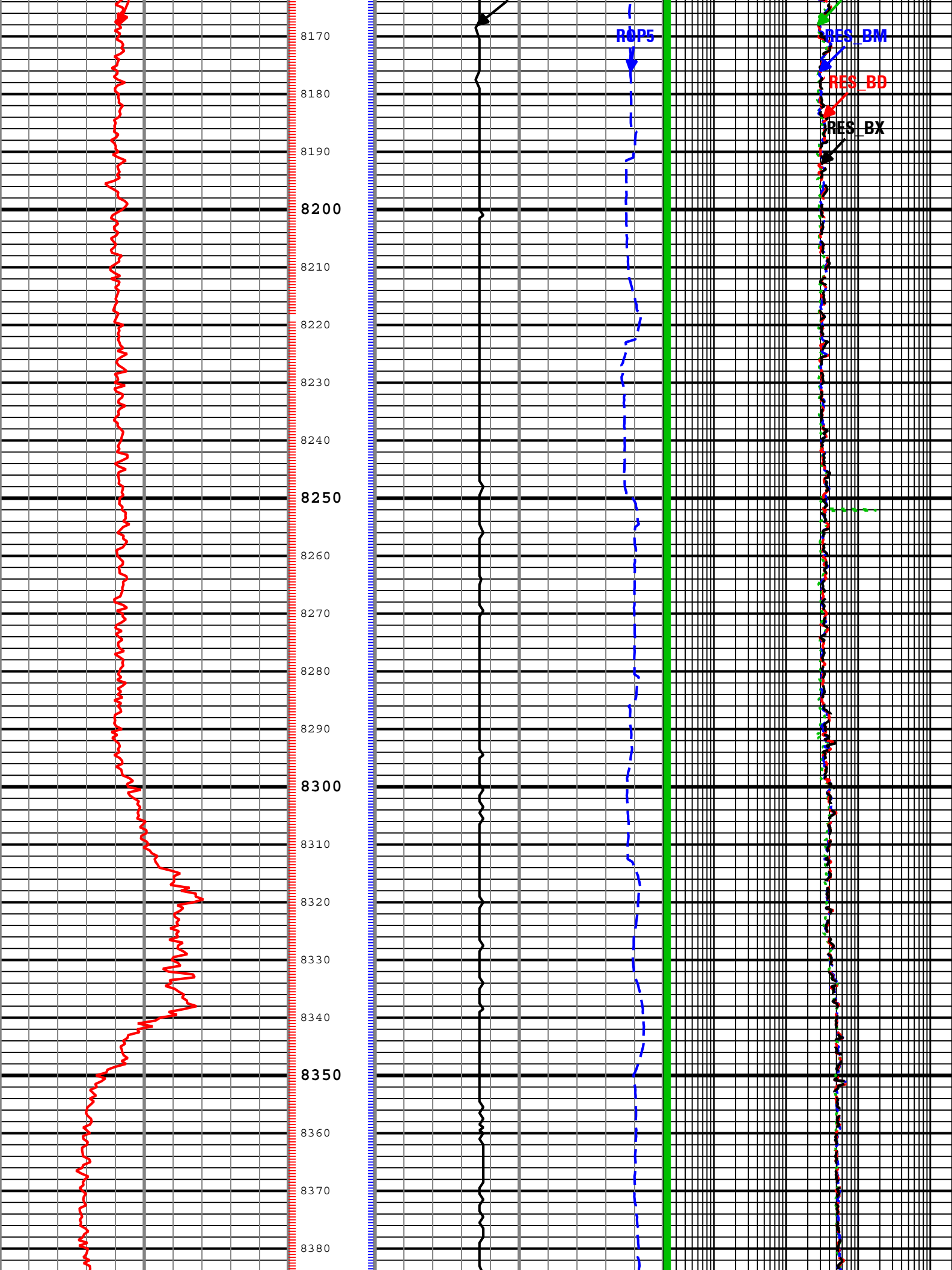
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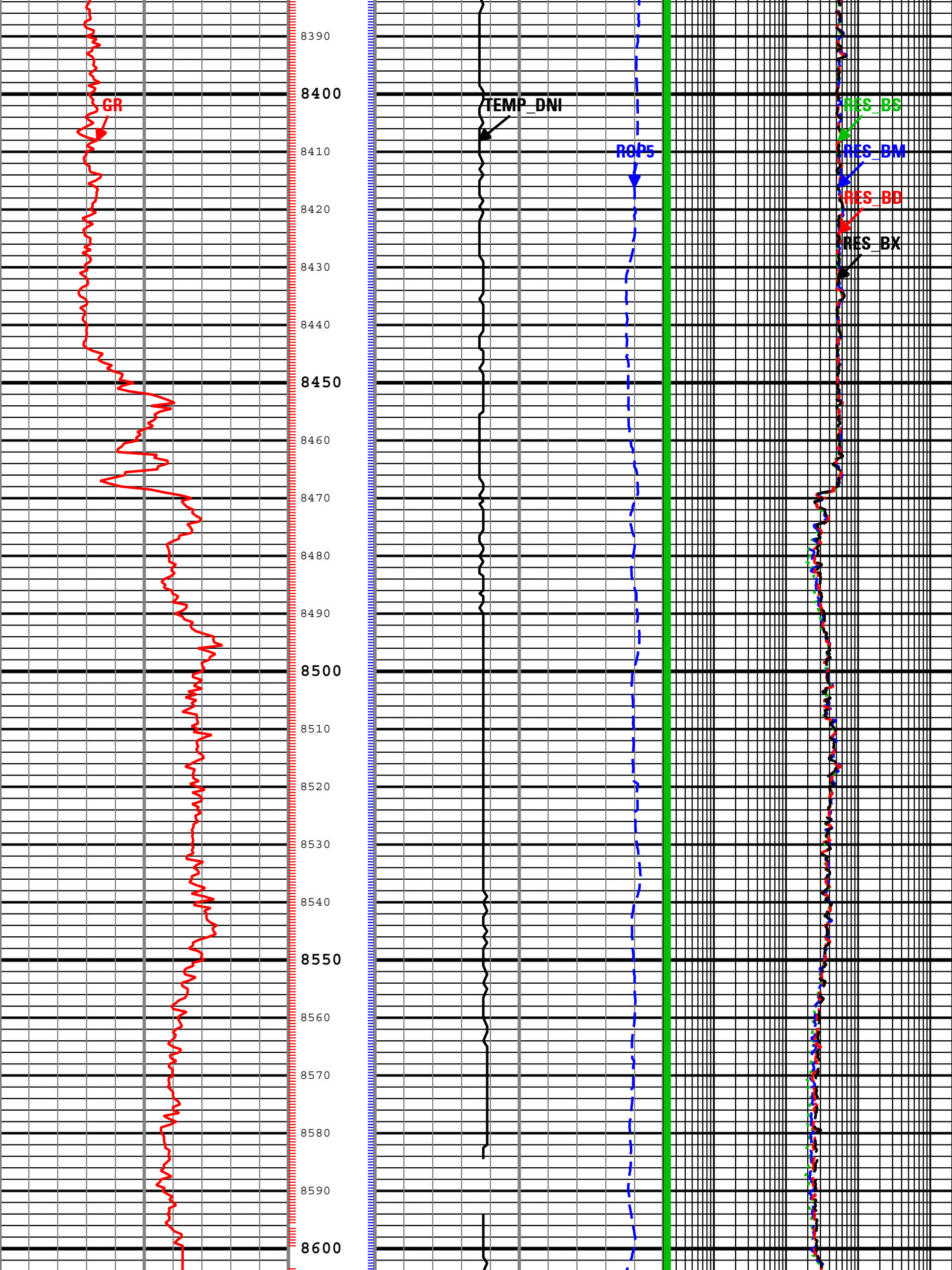
└─ RES_BS - Shallow Button Resistivity RAB[1] RT

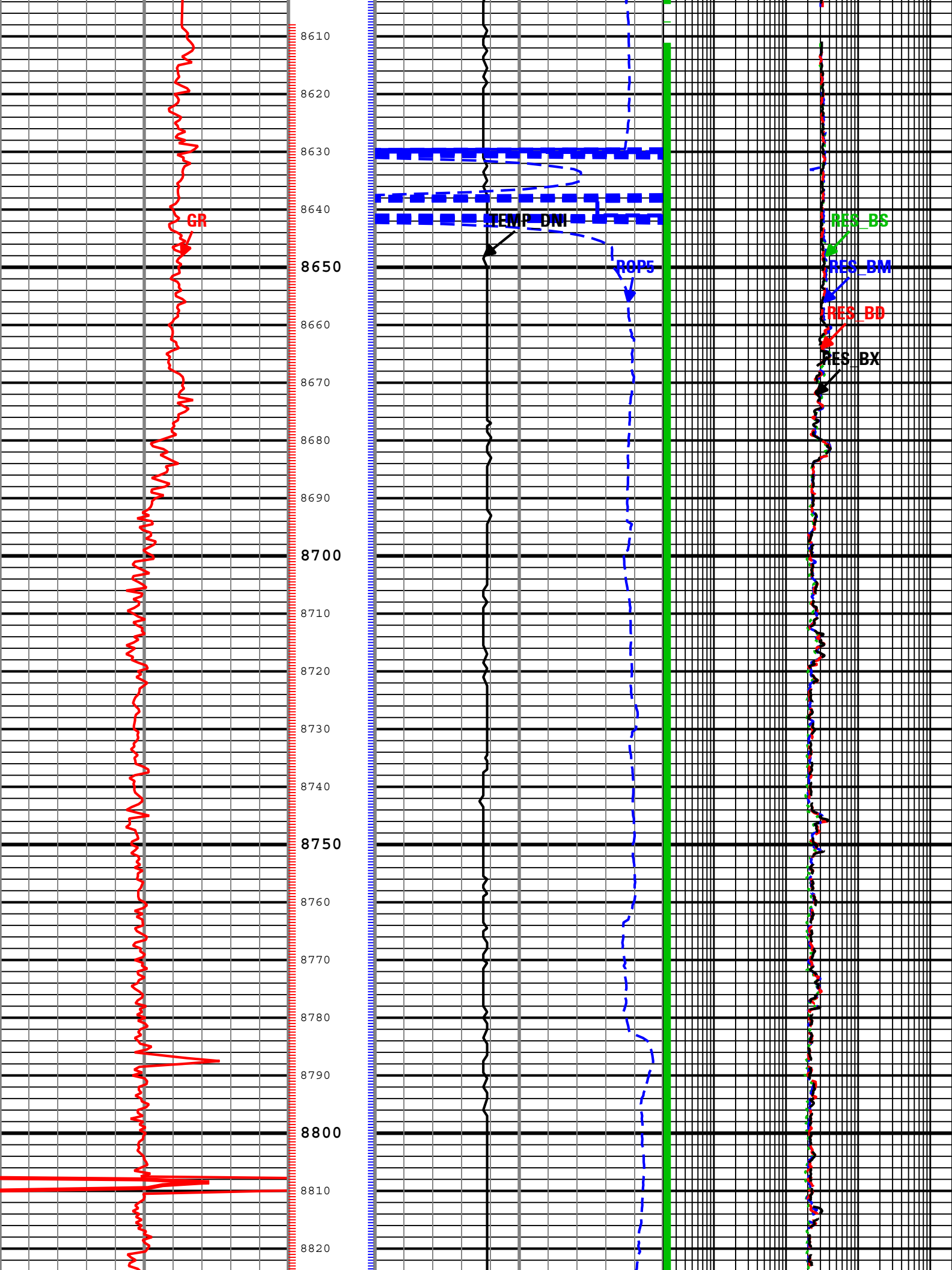
GR - Gamma Ray RAB[1] RT

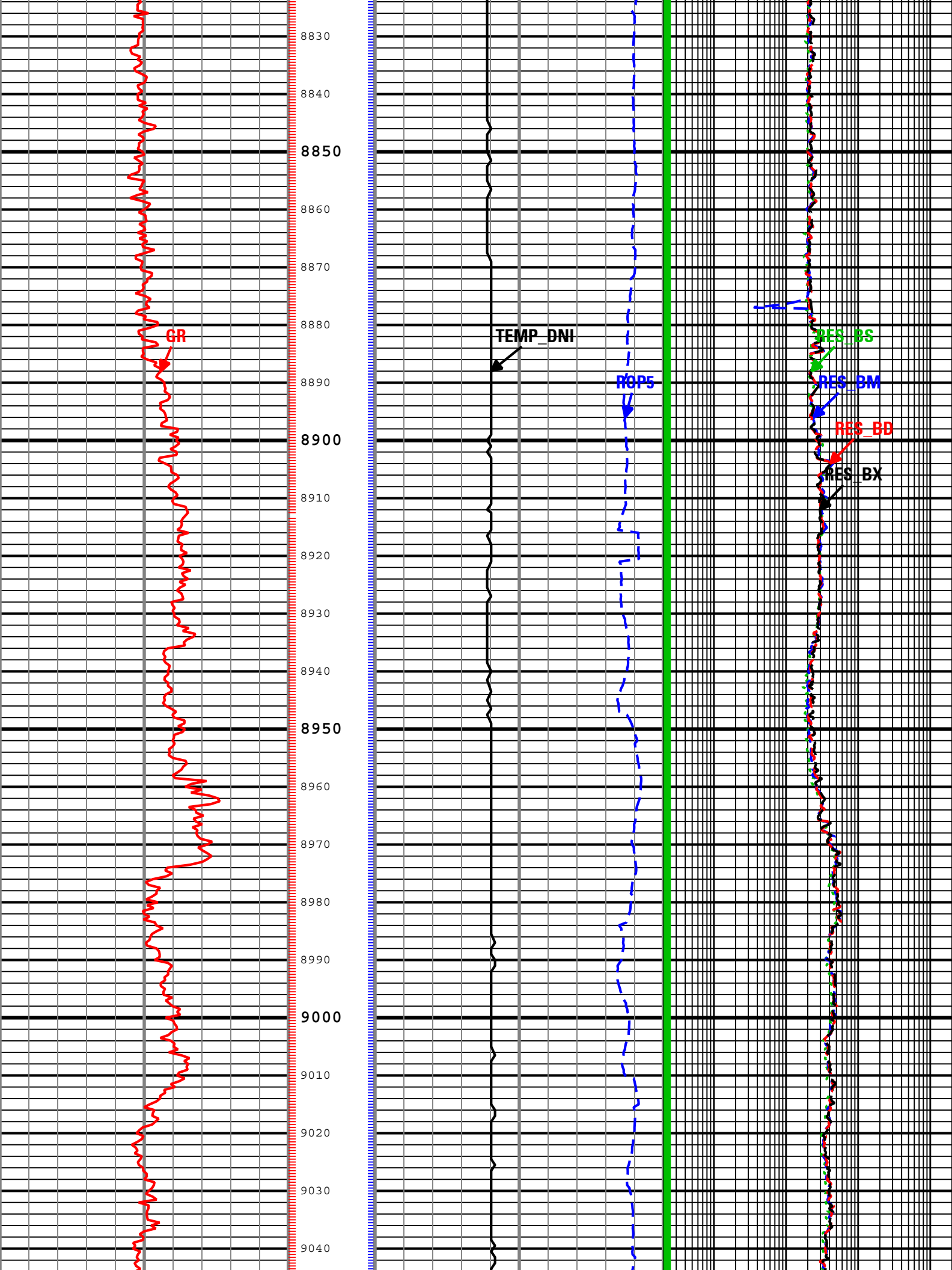
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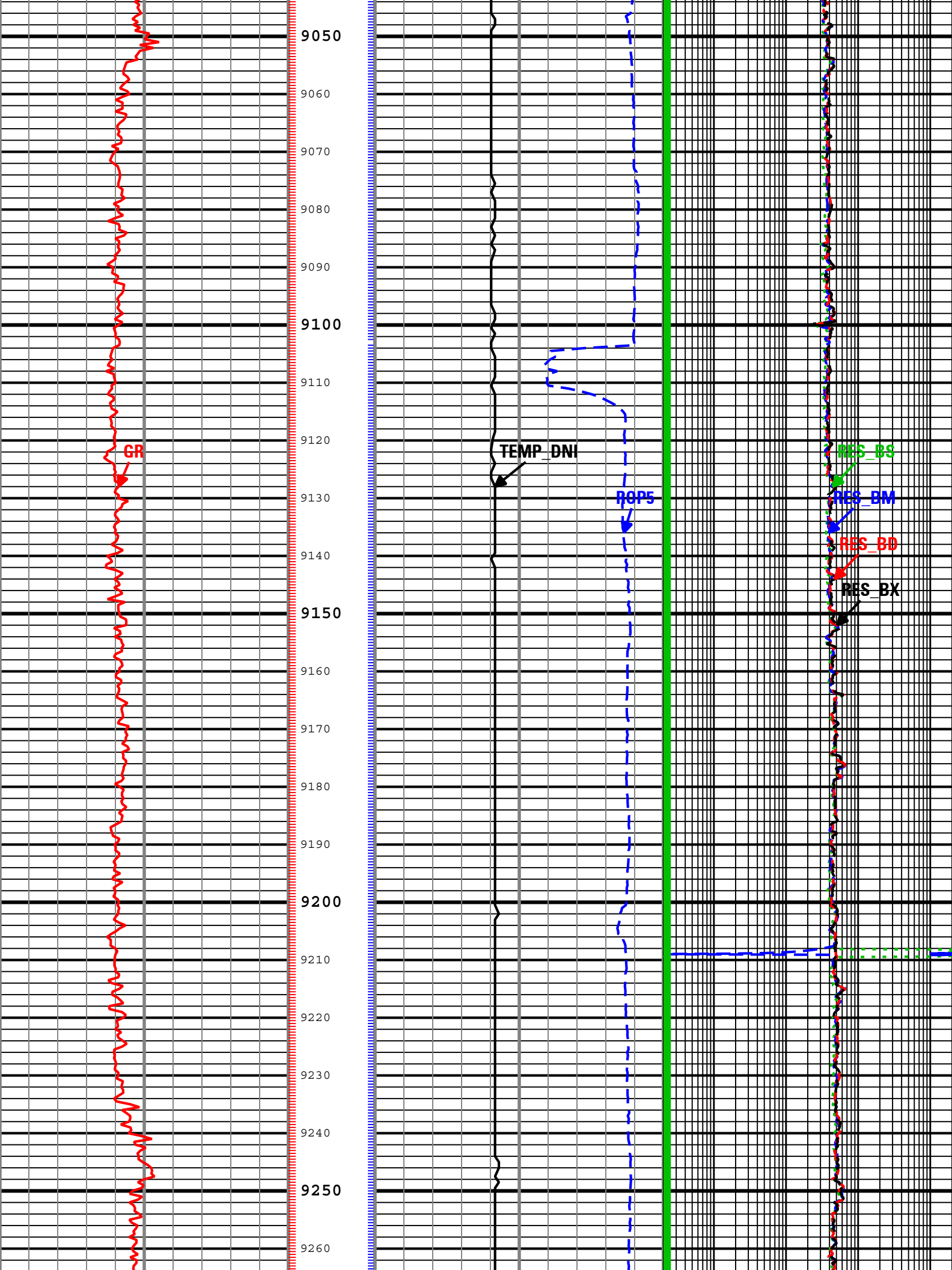


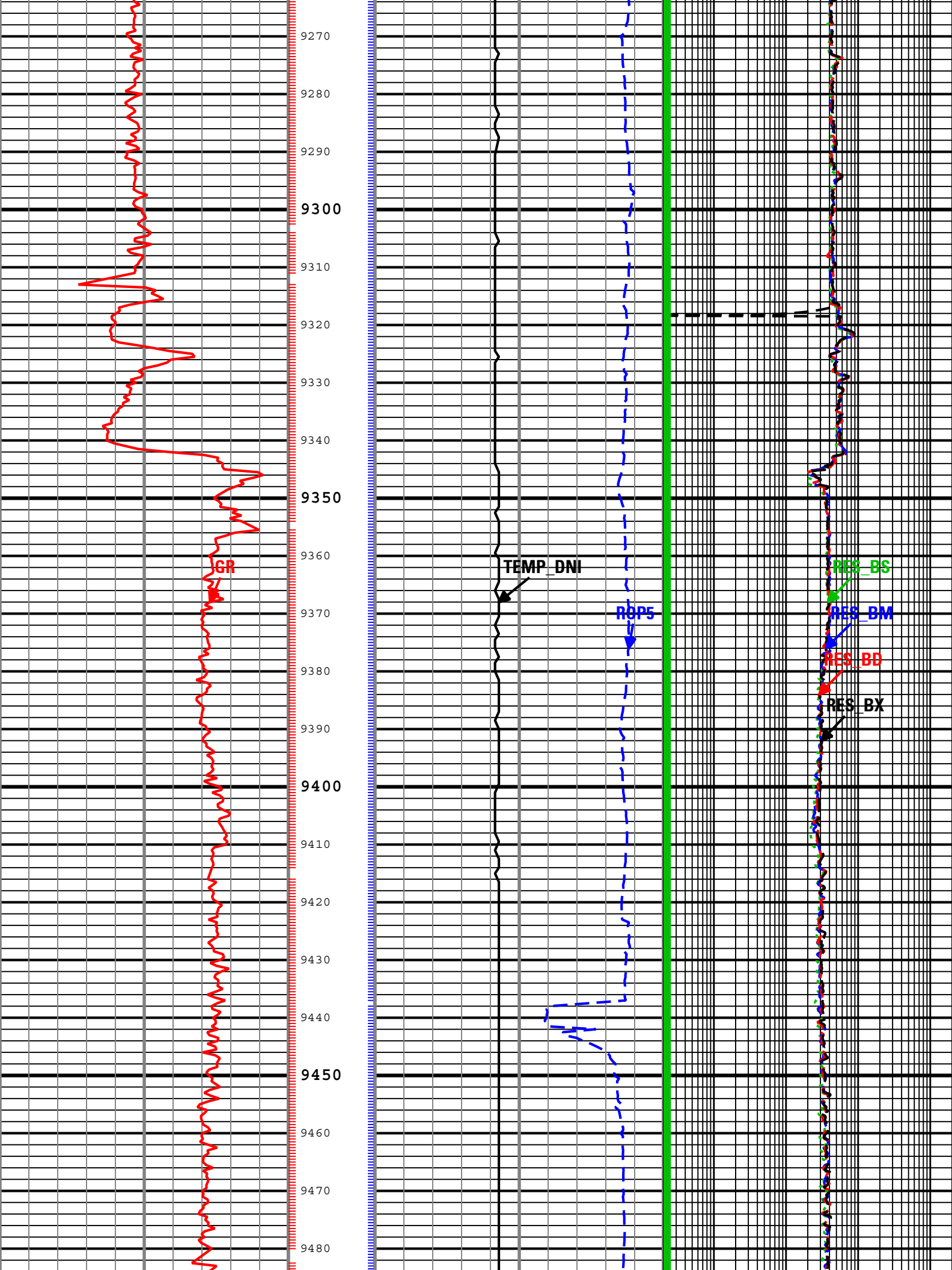


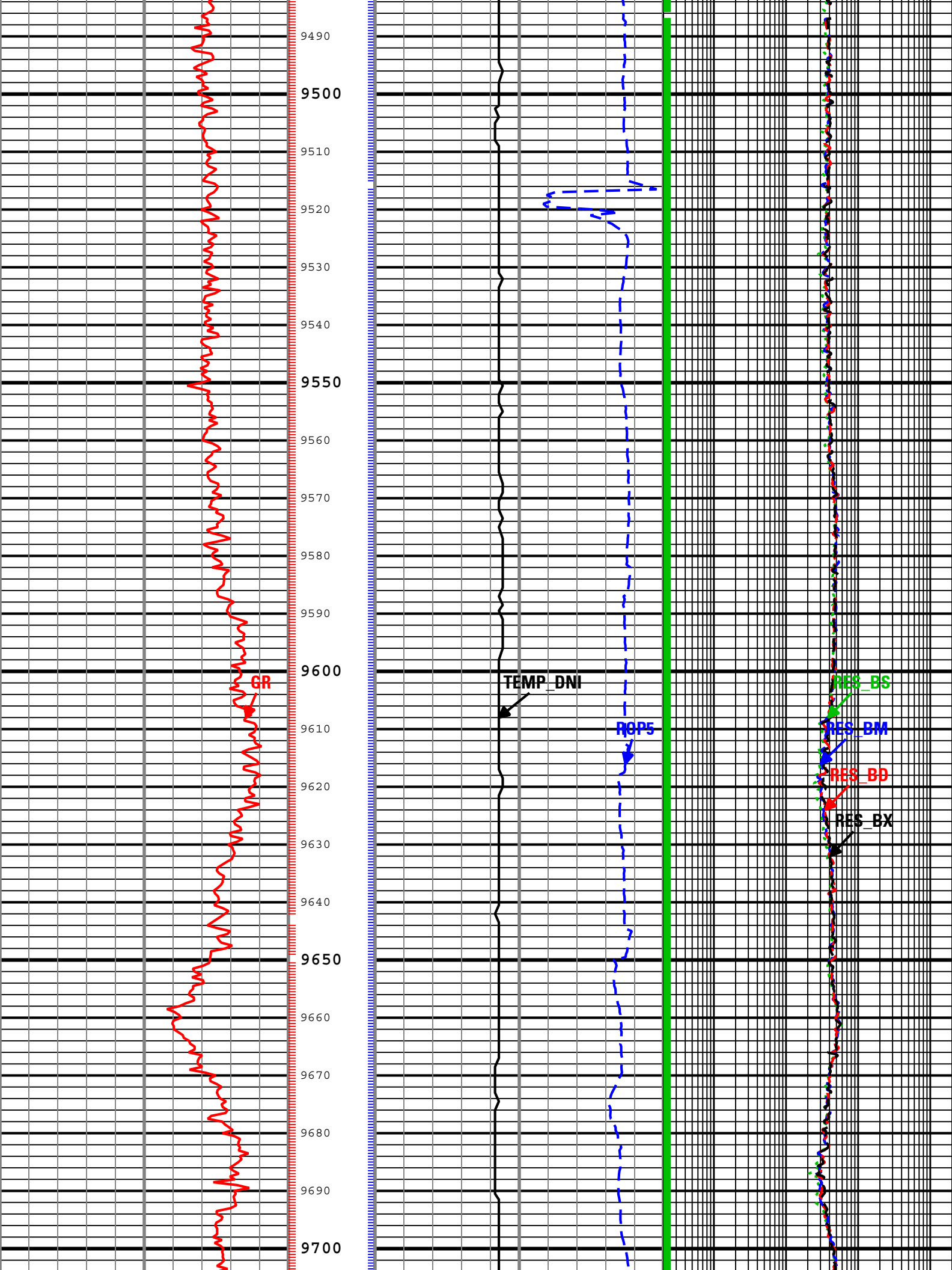


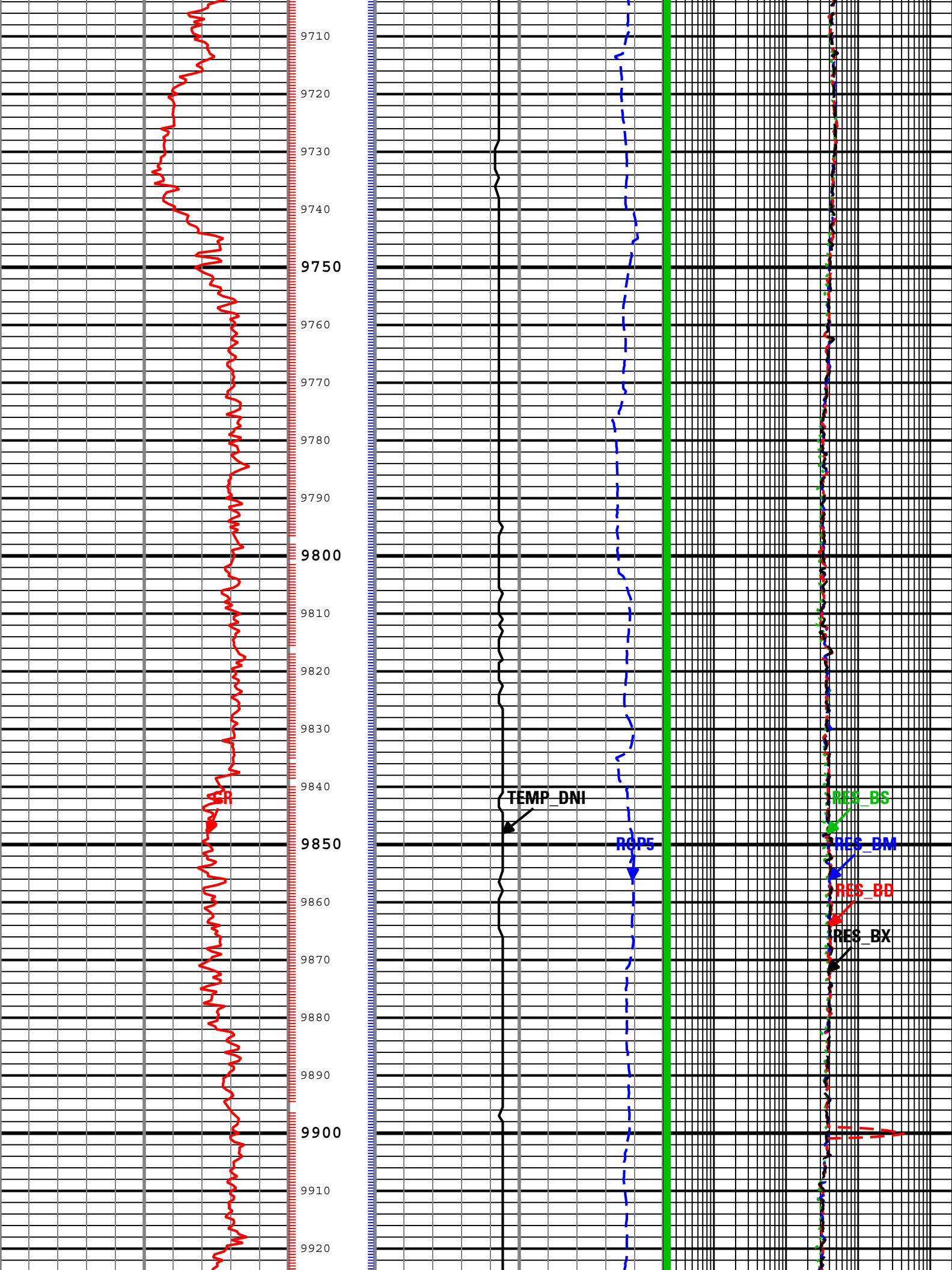


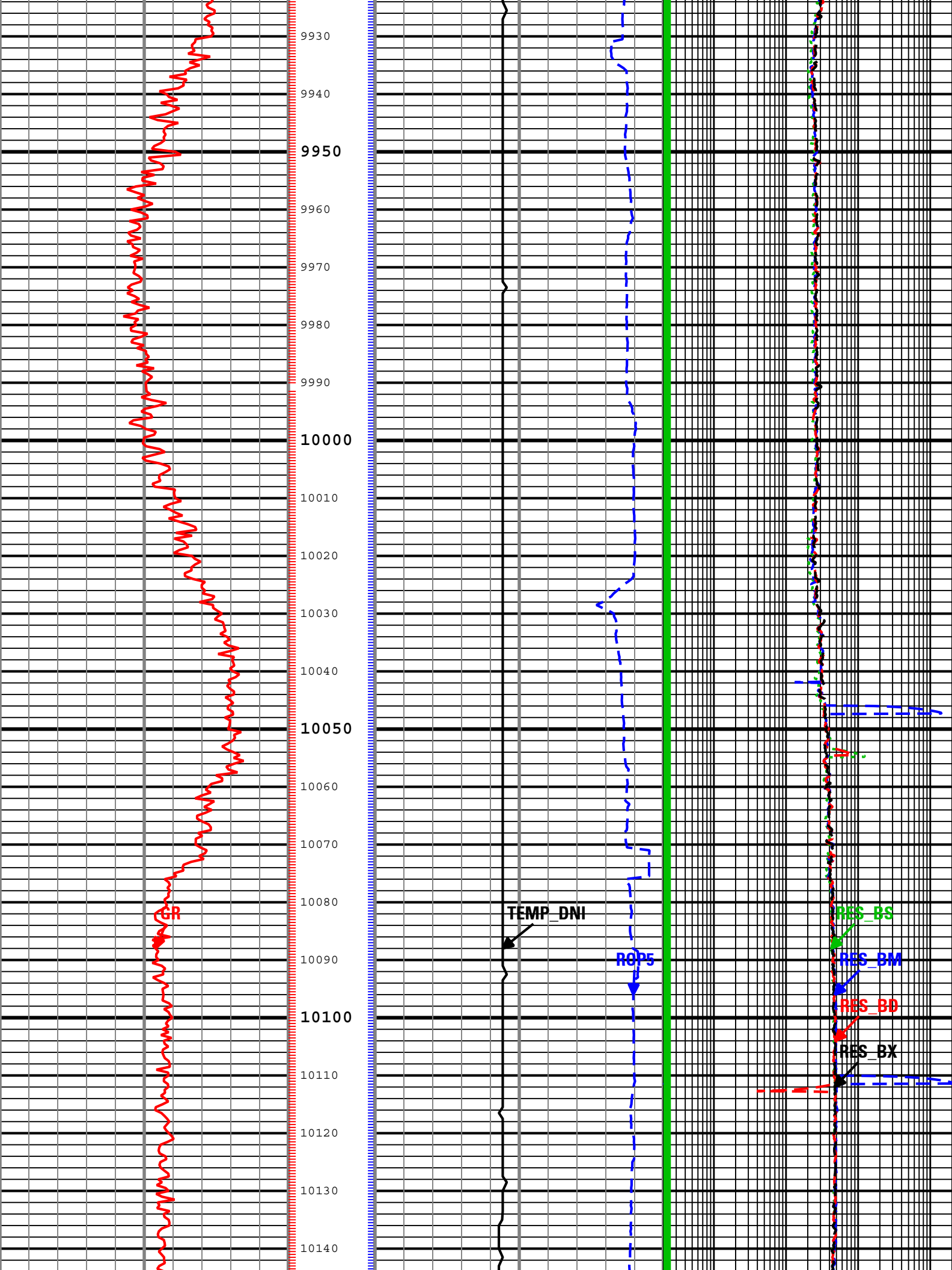


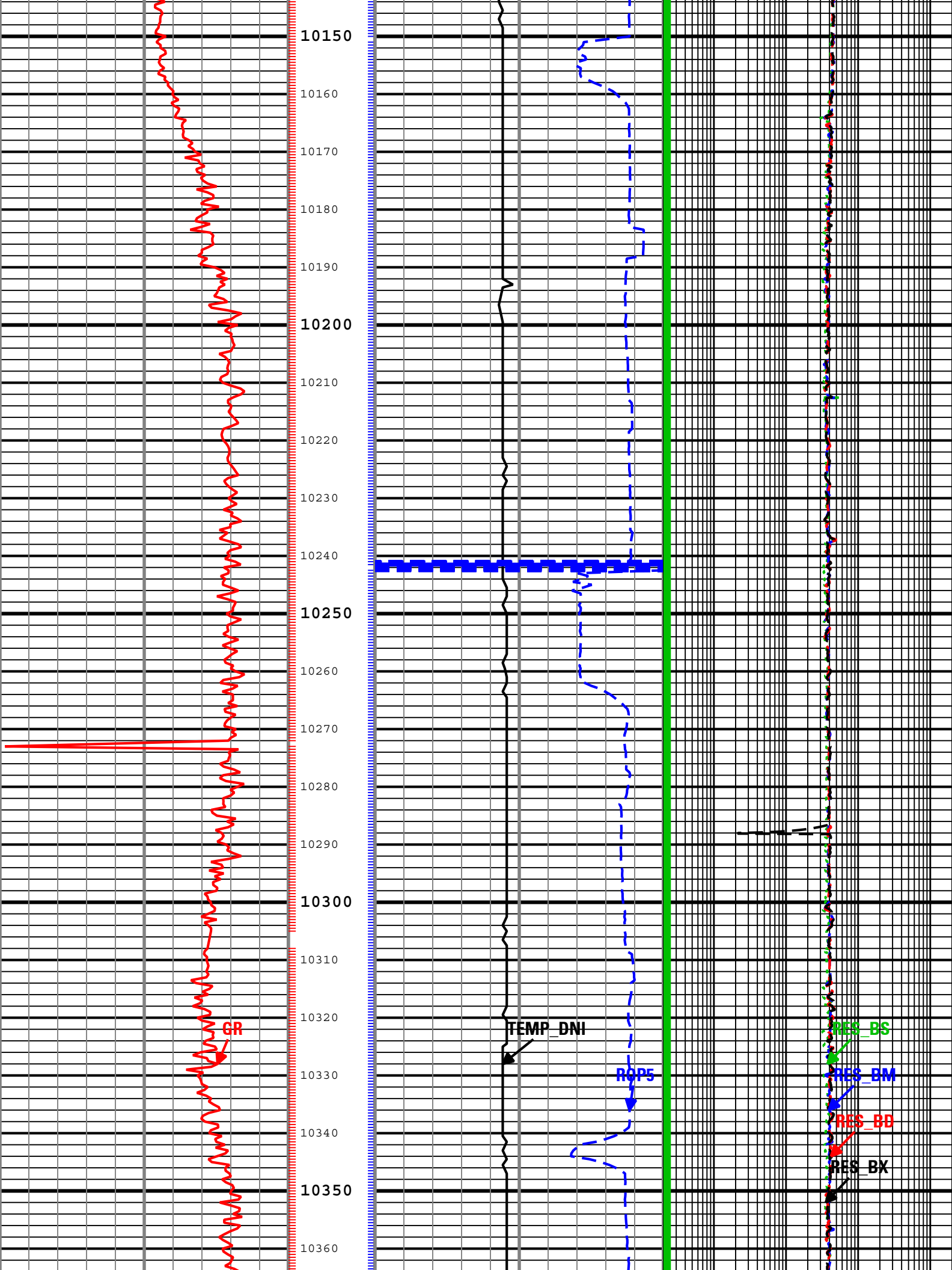


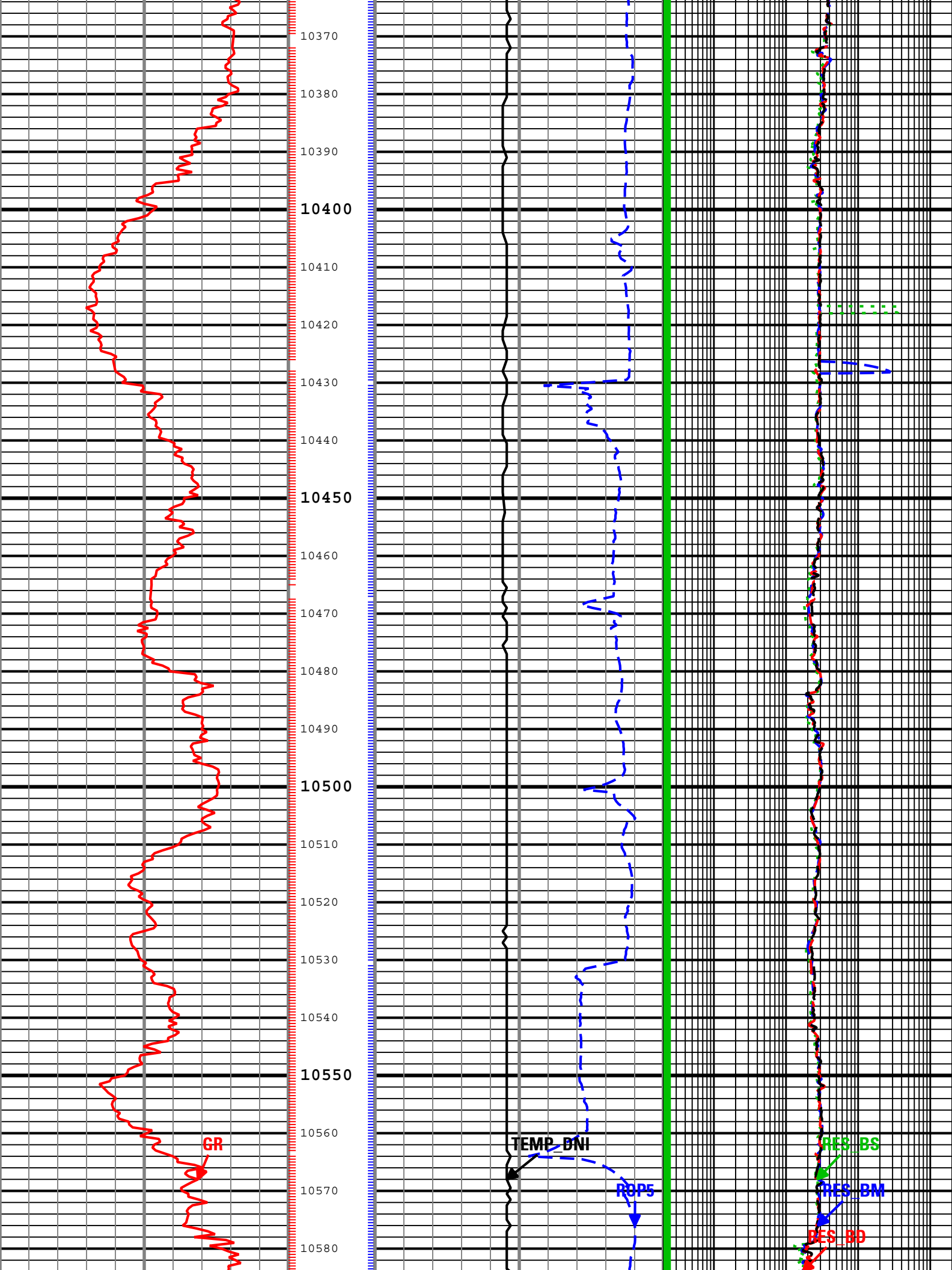


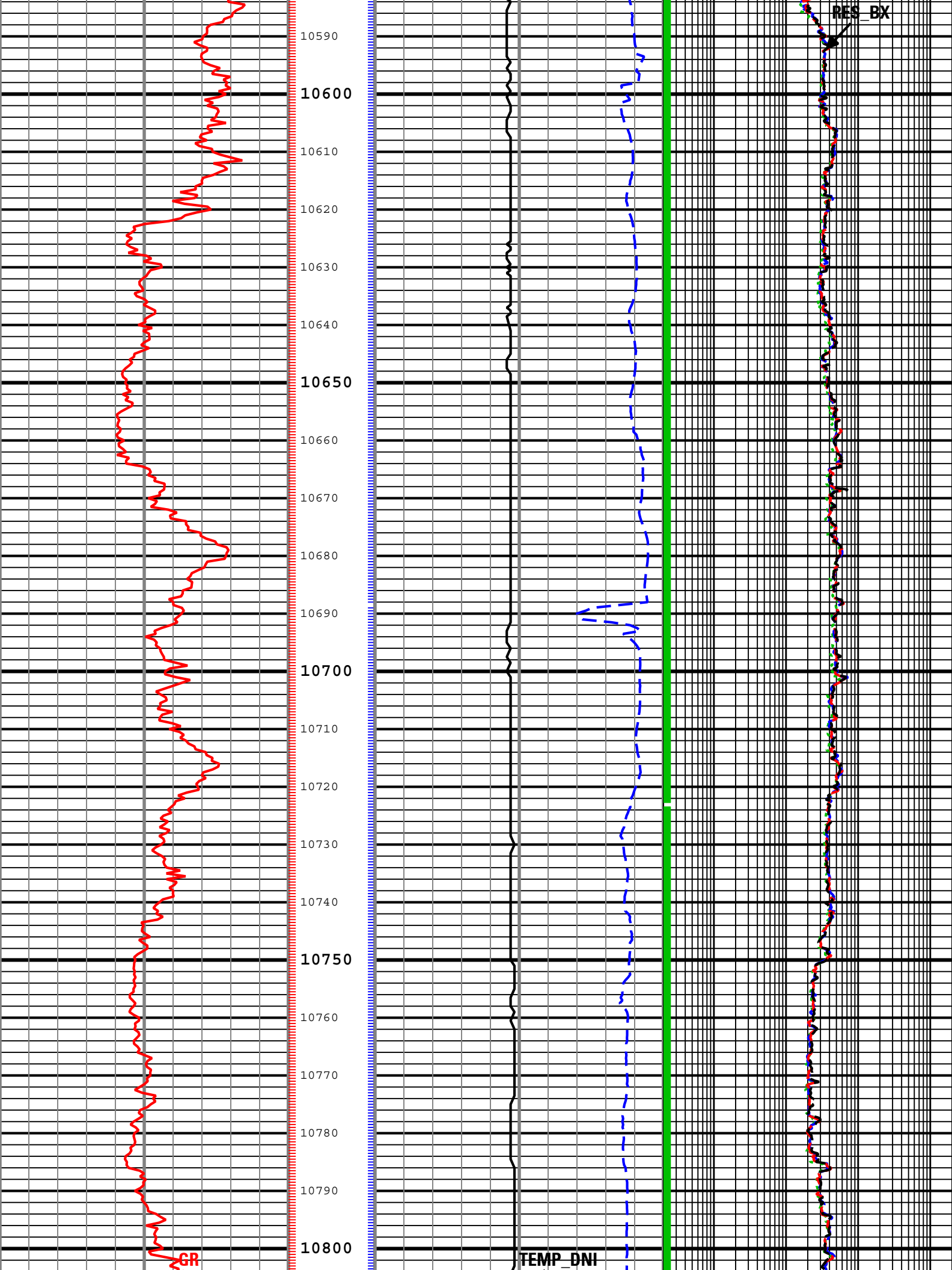


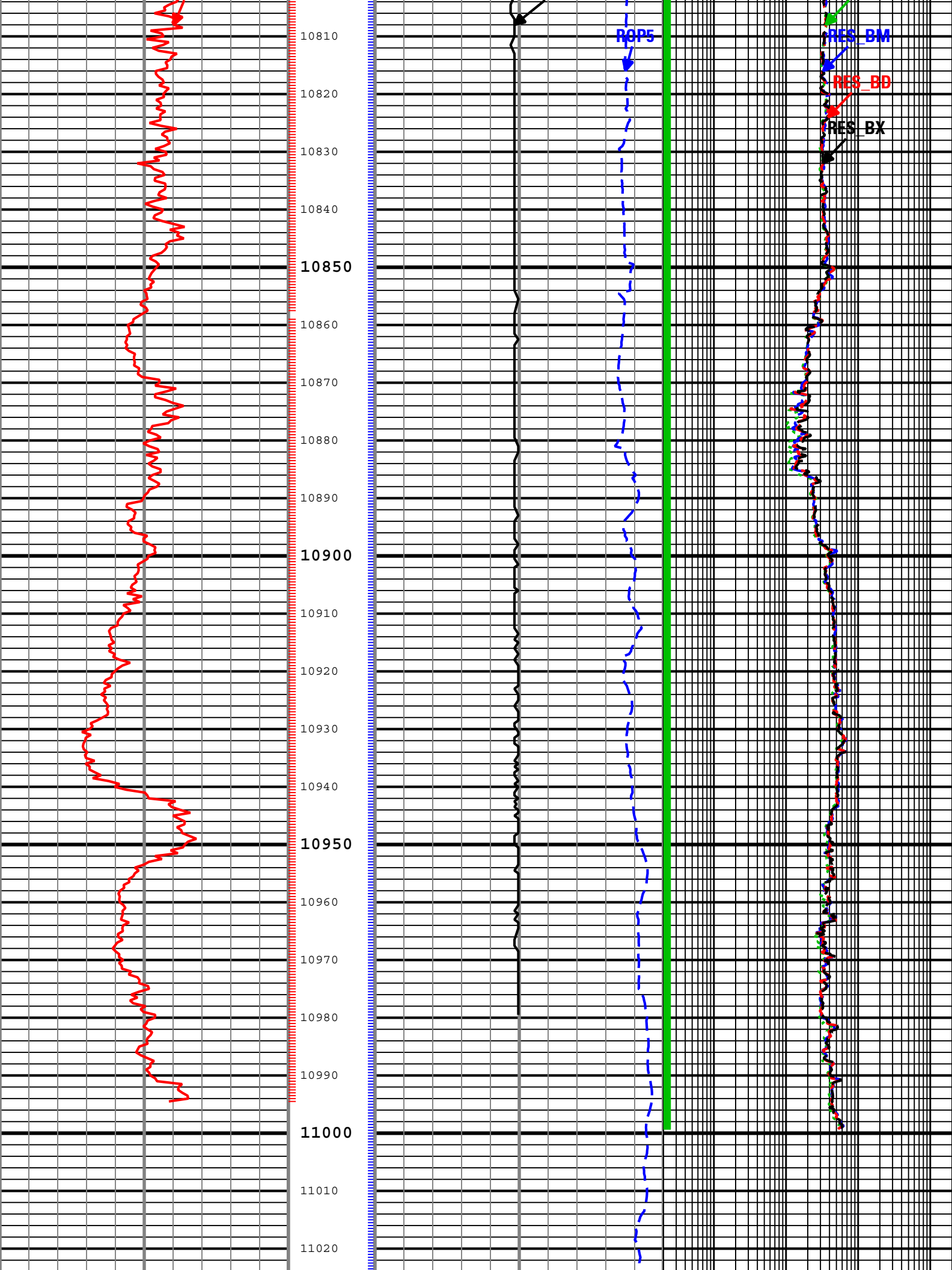


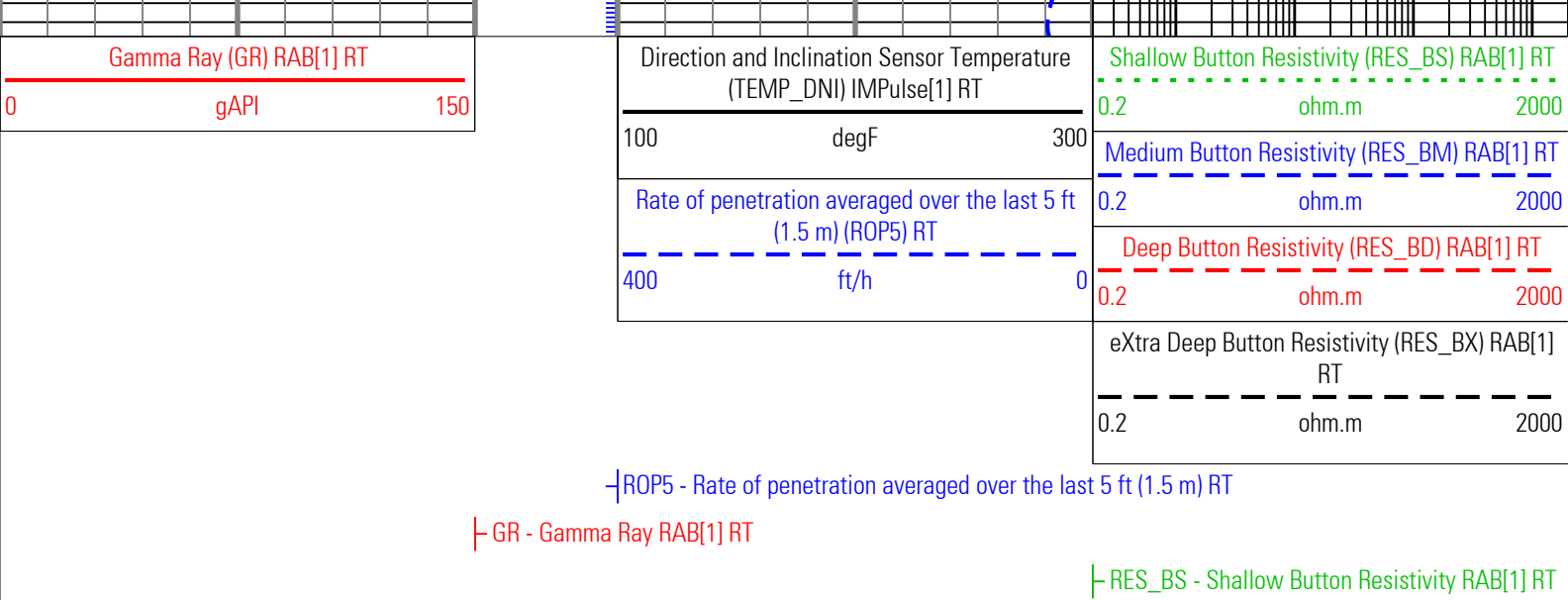












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